

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2040198PC/ko	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/FI2005/000077	International filing date (day/month/year) 04-02-2005	Priority date (day/month/year) 06-02-2004
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant Nokia Corporation et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising:	
a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>3</u> sheets, as follows:	
<input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).	
<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.	
b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4. This report contains indications relating to the following items:	
<input checked="" type="checkbox"/> Box No. I Basis of the report	
<input type="checkbox"/> Box No. II Priority	
<input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	
<input type="checkbox"/> Box No. IV Lack of unity of invention	
<input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	
<input type="checkbox"/> Box No. VI Certain documents cited	
<input type="checkbox"/> Box No. VII Certain defects in the international application	
<input type="checkbox"/> Box No. VIII Certain observations on the international application	

Date of submission of the demand 17-11-2005	Date of completion of this report 03-02-2006
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Ralf Boström / MRO Telephone No. +46 8 782 25 00

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Cover sheet

INTERNATIONAL PATENT CLASSIFICATION (IPC):

H04L 12/28 (2006.01)

H04L 12/18 (2006.01)

H04L 12/66 (2006.01)

H04L 29/06 (2006.01)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2005/000077

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-15	YES
	Claims	---	NO
Inventive step (IS)	Claims	1-15	YES
	Claims	---	NO
Industrial applicability (IA)	Claims	1-15	YES
	Claims	---	NO

2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

- D1. US 5999530 A1
- D2. US 2003084191 A1
- D3. US 2003061333 A1
- D4. US 5742905 B1

The cited documents represent the general state of the art. The invention defined in claims 1-15 is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed method of arranging communication in a local area network. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-15 is novel and is considered to involve an inventive step. The invention is industrially applicable.

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CLAIMS

1. A method of arranging communication in a local area networking system comprising a first device, a second device and an intermediate node for arranging data transmission between the first device and the second device, wherein at least the second device is arranged to multicast and/or broadcast messages to devices in the system, the method comprising
 - 11 checking the destination address of a received packet by the intermediate node, and
 - 10 comparing the destination address of the packet with at least one predetermined multicast and/or broadcast address, characterized by the method further comprising
 - 10 preventing in the system the transmission of the packet to the first device if the addresses match.
2. A method as claimed in claim 1, characterized in that
 - 15 the intermediate node is arranged to connect networks that use different data transmission protocols.
3. A method as claimed in claim 1 or 2, characterized in that the destination address is an IP address.
4. A method as claimed in claim 1, 2 or 3, characterized in
 - 20 that the first device belongs to the MHS domain of a UPnP system and the second device belongs to the HNv1 domain of the UPnP system.
5. A method as claimed in claim 4, characterized in that the transmission of UPnP discovery multicast messages to the first device is prevented.
6. A local area networking system comprising a first device, a second device and an intermediate node for arranging data transmission between the first device and the second device, wherein at least the second device is arranged to multicast and/or broadcast messages to devices in the system,
 - 25 the system is arranged to check the destination address of a received packet,
 - 30 the system is arranged to compare the destination address of the packet with at least one predetermined multicast and/or broadcast address, characterized in that

the system is arranged to prevent in the system the transmission of the packet to the first device if the addresses match.

7. A data processing device for a local area networking system, the data processing device being an intermediate node arranging data transmission between a first device and a second device, wherein the data processing device is arranged to check the destination address of a received packet by the intermediate node,

the data processing device is arranged to compare the destination address of the packet with at least one predetermined multicast and/or broadcast address, characterized in that

the data processing device is arranged to prevent the transmission of the packet in the system to the first device if the addresses match.

8. A data processing device according to claim 7, characterized in that

the data processing device is arranged to connect networks that use different data transmission protocols.

9. A data processing device according to claim 8, characterized in that

the data processing device is arranged to perform data transmission between an IEEE 802-based network to which the second device belongs and a Bluetooth network to which the first device belongs.

10. A data processing device according to claim 7, 8, or 9, characterized in that the destination address is an IP address.

11. A data processing device according to any preceding claim 7 - 10, characterized in that

the data processing device is arranged to provide data transmission between the first device belonging to the MHS domain of a UPnP system and the second device belonging to the HNV1 domain of the UPnP system.

12. A data processing device according to claim 11, characterized in that

the data processing device is arranged to prevent transmission of UPnP discovery multicast messages to the first device, and

the data processing device is arranged to forward at least the broadcast messages relating to address acquisition to the first device.

13. A data processing device according to any preceding claim 7 - 12, characterized in that

the data processing device is arranged to compare one or more properties of the message to the properties specified in predetermined transmission conditions to determine whether the message should be transferred to the first device.

5 14. Module for controlling a data processing device for a local area networking system, wherein the module is arranged to check the destination address of a received packet by the intermediate node,

10 the module is arranged to compare the destination address of the packet with at least one predetermined multicast and/or broadcast address, characterized in that

the module is arranged to prevent the transmission of the packet in the system to the first device if the addresses match.

15 15. A computer program product for controlling a data processing device for a local area networking system by executing the program code included in the computer product in a processor of the data processing device, the computer product comprising

a program code portion for causing the data processing device to check the destination address of a received packet by the intermediate node,

20 a program code portion for causing the data processing device to compare the destination address of the packet with at least one predetermined multicast and/or broadcast address, characterized by further comprising:

25 a program code portion for causing the data processing device to prevent the transmission of the packet in the system to the first device if the addresses match.